

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	6164	proteoglycan	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 13:56			0
2	BRS	L2	540	extract\$3 same 1	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 13:57			0
3	BRS	L3	153	2 same acid	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 13:57			0
4	BRS	L4	19	2 same (acetic adj acid)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 13:58			0
5	BRS	L5	304804	ethanol	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 13:58			0
6	BRS	L7	5530	5 same saturated same (sodium adj chloride)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 14:00			0
7	BRS	L8	2	(3 or 4) same 7	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 14:00			0
8	BRS	L6	14	(3 or 4) same 5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 14:05			0

	Type	L #	Hits	Search Text	IDBs	Time Stamp	Comments	Error Definition	Errors
9	BRS	L9	5	takagaki adj keiichi.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/08 14:05			0

FILE 'CAPLUS' ENTERED AT 14:09:42 ON 08 JUN 2003  
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FILE 'AGRICOLA' ENTERED AT 14:09:42 ON 08 JUN 2003

=> s protoglycan  
L2 35 PROTOGLYCAN

=> s proteoglycan  
L3 81608 PROTEOGLYCAN

=> s l3 (p) extract?  
L4 6815 L3 (P) EXTRACT?

=> s l4 (p) acid (p) cartilage  
L5 905 L4 (P) ACID (P) CARTILAGE

=> s l4 (p) (acetic acid) (p) cartilage  
L6 6 L4 (P) (ACETIC ACID) (P) CARTILAGE

=> duplicate remove l6  
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE'  
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n  
PROCESSING COMPLETED FOR L6  
L7 4 DUPLICATE REMOVE L6 (2 DUPLICATES REMOVED)

=> d l7 1-4 ibib abs

L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2002:157148 CAPLUS  
DOCUMENT NUMBER: 136:163703  
TITLE: A method for extraction and purification of cartilage  
type proteoglycan  
INVENTOR(S): Takagaki, Keiichi  
PATENT ASSIGNEE(S): Kakuhiro Co., Ltd., Japan  
SOURCE: Eur. Pat. Appl., 8 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1182209	A2	20020227	EP 2001-117771	20010801
EP 1182209	A3	20030205		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO

JP 2002069097	A2	20020308	JP 2000-251071	20000822
US 2002045735	A1	20020418	US 2001-916250	20010730

PRIORITY APPLN. INFO.: JP 2000-251071 A 20000822

AB The present invention relates to a new method for extn. and purifn. of  
cartilage type proteoglycan, and is to provide a method for extn. of crude  
proteoglycan characterized by the use of acid as eluting solvent of  
cartilage.

L7 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2002:490169 CAPLUS  
DOCUMENT NUMBER: 137:277009  
TITLE: Effect of proteoglycan on experimental colitis  
AUTHOR(S): Majima, Mitsuo; Takagaki, Keiichi; Sudo, Shin-ichiro;  
Yoshihara, Syuichi; Kudo, Yoshiaki; Yamagishi, Shohei  
CORPORATE SOURCE: Kakuhiro Co. Ltd., Aomori, 030-8543, Japan  
SOURCE: International Congress Series (2001), 1223(New  
Developments in Glycomedicine), 221-224

PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The effect of \*\*\*proteoglycan\*\*\* (PG) on colitis was examd. in animal expts. using mice. The PG used was \*\*\*extd\*\*\* from nasal \*\*\*cartilage\*\*\* of salmon head with 4% \*\*\*acetic\*\*\* \*\*\*acid\*\*\* and prepd. by pptn. with ethanol followed by dialysis. The PG contained about 7% protein, and had a mol. mass of 344 kDa on SDS/PAGE. The glycosaminoglycan (GAG) sugar chains of the PG were composed of hexosamine, uronic acid and sulfate at a molar ratio of 1.0:1.0:0.7. The mice were divided into a control group and an administration group. The control group was given free access to drinking water contg. dextran sulfate sodium salt (DSS) to induce colitis. On the other hand, the administration group was given free access to drinking water contg. DSS and PG. Then, the time course of survival rates in both groups were measured. In the administration group, the survival rate increased significantly in comparison with that of the control group. The difference in the survival rates indicated that the onset of mouse colitis induced by DSS was inhibited by administration of the PG.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 4 MEDLINE DUPLICATE 1  
ACCESSION NUMBER: 76253644 MEDLINE  
DOCUMENT NUMBER: 76253644 PubMed ID: 782525  
TITLE: Pepsin-solubilized collagen of human nucleus pulposus and annulus fibrosus.  
AUTHOR: Osebold W R; Pedrini V  
SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1976 Jun 15) 434 (2) 390-405.  
Journal code: 0217513. ISSN: 0006-3002.  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 197610  
ENTRY DATE: Entered STN: 19900313  
Last Updated on STN: 19900313  
Entered Medline: 19761020

AB Human nucleus pulposus and annulus fibrosus, obtained at autopsy from patients 7-30 years of age, were \*\*\*extracted\*\*\* with 2 M guanidine-HCl (pH 5.82) to remove \*\*\*proteoglycans\*\*\*, then stirred with pepsin in 0.5 M \*\*\*acetic\*\*\* \*\*\*acid\*\*\*, followed by three 24-h \*\*\*extractions\*\*\* with 1 M NaCl (pH 7.5) and one 24-h \*\*\*extraction\*\*\* with 2 M KSCN (potassium thiocyanate) (pH 7.2). Pepsin and NaCl solubilized an average of about 30% of nucleus pulposus collagen and 18% of annulus fibrosus collagen. KSCN \*\*\*extracted\*\*\* a further 34% of nucleus pulposus collagen and only 4% of annulus fibrosus collagen. CM-cellulose chromatography of nucleus and annulus collagen purified from the pepsin, NaCl and KSCN supernatants consistently revealed only one peak, always appearing slightly ahead of the alpha1 position for rat tail tendon type I collagen. Polyacrylamide and SDS-gel electrophoresis consistently revealed only one band with the mobility of alpha1 chains. Amino acid composition of collagen from nucleus and annulus is comparable to those of mammalian and avian \*\*\*cartilage\*\*\* type II collagen, and distinctly different from those of rat tail tendon and guinea pig skin type I collagens. Periodate oxidation of nucleus and annulus collagens showed that 81% and 67%, respectively, of the hydroxylysine residues survive treatment, compared to 71% for bovine articular \*\*\*cartilage\*\*\* collagen and 17% for guinea pig skin collagen. Total hexose analysis revealed 1.8 muM and 2.0 muM hexose per muM periodate-stable hydroxylysine in nucleus and annulus collagens, respectively. Ion exchange chromatography showed the presence of glucose and galactose in a ratio of 0.92:1 in nucleus collagen and 1.07:1 in annulus collagen. Pepsin-solubilized, NaCl- \*\*\*extracted\*\*\* collagen from nucleus and annulus formed native-type fibrils in vitro. The banding patterns of ATP-induced segment-long-spacing precipitates of nucleus and annulus collagens were identical to each other and indistinguishable from those of \*\*\*cartilage\*\*\* (type II) collagen, but distinctly different from those of rat tail tendon (type I) collagen. These data suggest that the collagen which can be \*\*\*extracted\*\*\* after limited pepsin attack of human nucleus and annulus is of the form [alpha1 (II)]3.

L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1973:54498 CAPLUS  
DOCUMENT NUMBER: 78:54498

TITLE: Structural studies on cartilage collagen employing  
 limited cleavage and solubilization with pepsin  
 AUTHOR(S): Miller, Edward J.  
 CORPORATE SOURCE: Med. Cent., Univ. Alabama, Birmingham, AL, USA  
 SOURCE: Biochemistry (1972), 11(26), 4903-9  
 CODEN: BICHAW; ISSN: 0006-2960  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Insol. \*\*\*cartilage\*\*\* collagen was prepd. as the residue from the  
 sternal \*\*\*cartilages\*\*\* of 10-week-old chickens by exhaustive  
 \*\*\*extn\*\*\* with M NaCl at neutral pH and 0.5 M \*\*\*acetic\*\*\*  
 \*\*\*acid\*\*\*. The \*\*\*extn\*\*\* procedures were totally ineffective in  
 solubilizing \*\*\*cartilage\*\*\* collagen but were useful as a means of  
 removing \*\*\*proteoglycan\*\*\* components of the tissue. Amino acid  
 analyses of the insol. \*\*\*cartilage\*\*\* collagen residue revealed an  
 amino acid compn. closely resembling that of purified .alpha.1(II) chains.  
 Characterization of the CNBr cleavage products derived from insol.  
 \*\*\*cartilage\*\*\* collagen indicated that they are, for the most part,  
 qual. identical with those previously obsd. in CNBr digest of .alpha.1(II)  
 prepd. from sol. \*\*\*cartilage\*\*\* collagen. However, 2 addnl. CNBr  
 peptides (designated peptides 14 and 15) comprising a total sequence of 21  
 amino acids derived from a nonhelical region of the \*\*\*cartilage\*\*\*  
 collagen mol. were identified. Incubation of insol. \*\*\*cartilage\*\*\*  
 collagen in 0.5 M \*\*\*acetic\*\*\* \*\*\*acid\*\*\* contg. pepsin (ratio of  
 collagen: enzyme = 10:1) at 4.degree. for 18 hr solubilized 60-70% of the  
 collagen. Characterization of the pepsin-solubilized \*\*\*cartilage\*\*\*  
 collagen with respect to chain compn., mol. wt. of the component .alpha.  
 chains and CNBr cleavage products of the chains indicated that the  
 collagen was solubilized as monomeric mols. of the chain compn.,  
 {.alpha.1(II)}<sub>3</sub>, and that the proteolytic activity of pepsin on the native  
 \*\*\*cartilage\*\*\* collagen mol. is confined to relatively short sequences  
 represented by the CNBr peptides, 1,4,14,15, and the CO<sub>2</sub>H-terminal portion  
 of peptide 7. These results indicating that the cited sequences do not  
 participate in collagen helix formation and that they are localized at the  
 extremities of the .alpha.1(II) chains comprising the \*\*\*cartilage\*\*\*  
 collagen mol. have been used, in conjunction with addnl. data on the  
 location of peptides 1 and 4, to establish that the order of the CNBr  
 peptides in the carboxy-terminal region of the .alpha.1(II) chain is:  
 7-14-15. These results further indicate that failure to detect peptides  
 14 and 15 in the CNBr cleavage products of .alpha.1(II) prepd. from  
 soluble \*\*\*cartilage\*\*\* collagen resulted from nonspecific proteolytic  
 activity during \*\*\*extn\*\*\* and purifn. of the collagen. It is  
 proposed that the mechanism whereby the proteolytic activity of pepsin  
 alters the soly. properties of \*\*\*cartilage\*\*\* collagen involves, at  
 least in part, the degradation of the sequence represented by peptide 4,  
 thus effectively eliminating a site of intermol. cross-linking known to  
 occur in this sequence.

=> d his

(FILE 'HOME' ENTERED AT 14:08:15 ON 08 JUN 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH' ENTERED AT 14:08:35 ON  
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FILE 'AGRICOLA' ENTERED AT 14:08:42 ON 08 JUN 2003

L1 0 S MEDLINE CAPLUS BIOSIS EMBASE SCISEARCH AGRICOLA

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT  
 14:09:42 ON 08 JUN 2003

L2 35 S PROTOGLYCAN  
 L3 81608 S PROTEOGLYCAN  
 L4 6815 S L3 (P) EXTRACT?  
 L5 905 S L4 (P) ACID (P) CARTILAGE  
 L6 6 S L4 (P) (ACETIC ACID) (P) CARTILAGE  
 L7 4 DUPLICATE REMOVE L6 (2 DUPLICATES REMOVED)

=> s ethanol (p) saturat? (p) (sodium chloride)

L8 53 ETHANOL (P) SATURAT? (P) (SODIUM CHLORIDE)

=> S L5 (P) L8

L9 0 L5 (P) L8

=> S L7 (P) L8

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
 FIELD CODE - 'AND' OPERATOR ASSUMED 'L56 (P) L40'

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L58 (P) L41'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L60 (P) L42'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L62 (P) L43'  
L10 0 L7 (P) L8

=> S L10 (P) DIALYSIS

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L57 (P) DIALYSIS'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L59 (P) DIALYSIS'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L61 (P) DIALYSIS'  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L63 (P) DIALYSIS'  
L11 0 L10 (P) DIALYSIS

=> D HIS

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08 JUN 2003

FILE 'AGRICOLA' ENTERED AT 14:08:42 ON 08 JUN 2003

L1 0 S MEDLINE CAPLUS BIOSIS EMBASE SCISEARCH AGRICOLA

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT  
14:09:42 ON 08 JUN 2003

L2 35 S PROTOGLYCAN  
L3 81608 S PROTEOGLYCAN  
L4 6815 S L3 (P) EXTRACT?  
L5 905 S L4 (P) ACID (P) CARTILAGE  
L6 6 S L4 (P) (ACETIC ACID) (P) CARTILAGE  
L7 4 DUPLICATE REMOVE L6 (2 DUPLICATES REMOVED)  
L8 53 S ETHANOL (P) SATURAT? (P) (SODIUM CHLORIDE)  
L9 0 S L5 (P) L8  
L10 0 S L7 (P) L8  
L11 0 S L10 (P) DIALYSIS

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ENTRY	SESSION
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